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(54) Facsimile with user-selectable display language

(57) A facsimile (or other image processing) machine having an operating panel (8, fig 1) with a display (8e) for giving user guidance and showing machine status displays information in one of a plurality of languages selected by the user. Information messages to be displayed are stored in ROM and RAM (3, 4) in the plurality of languages available.
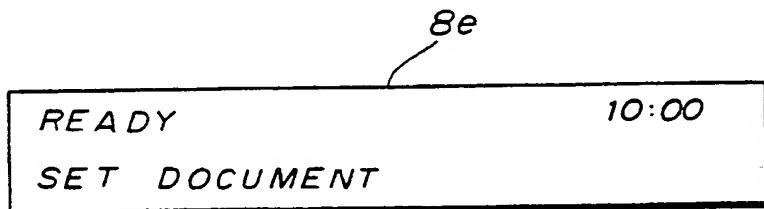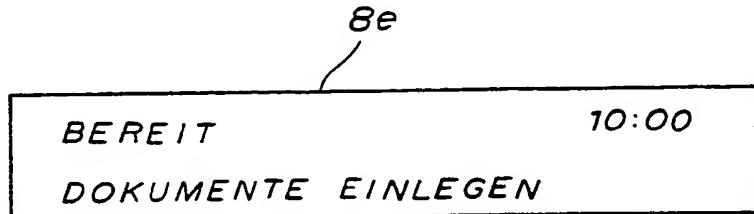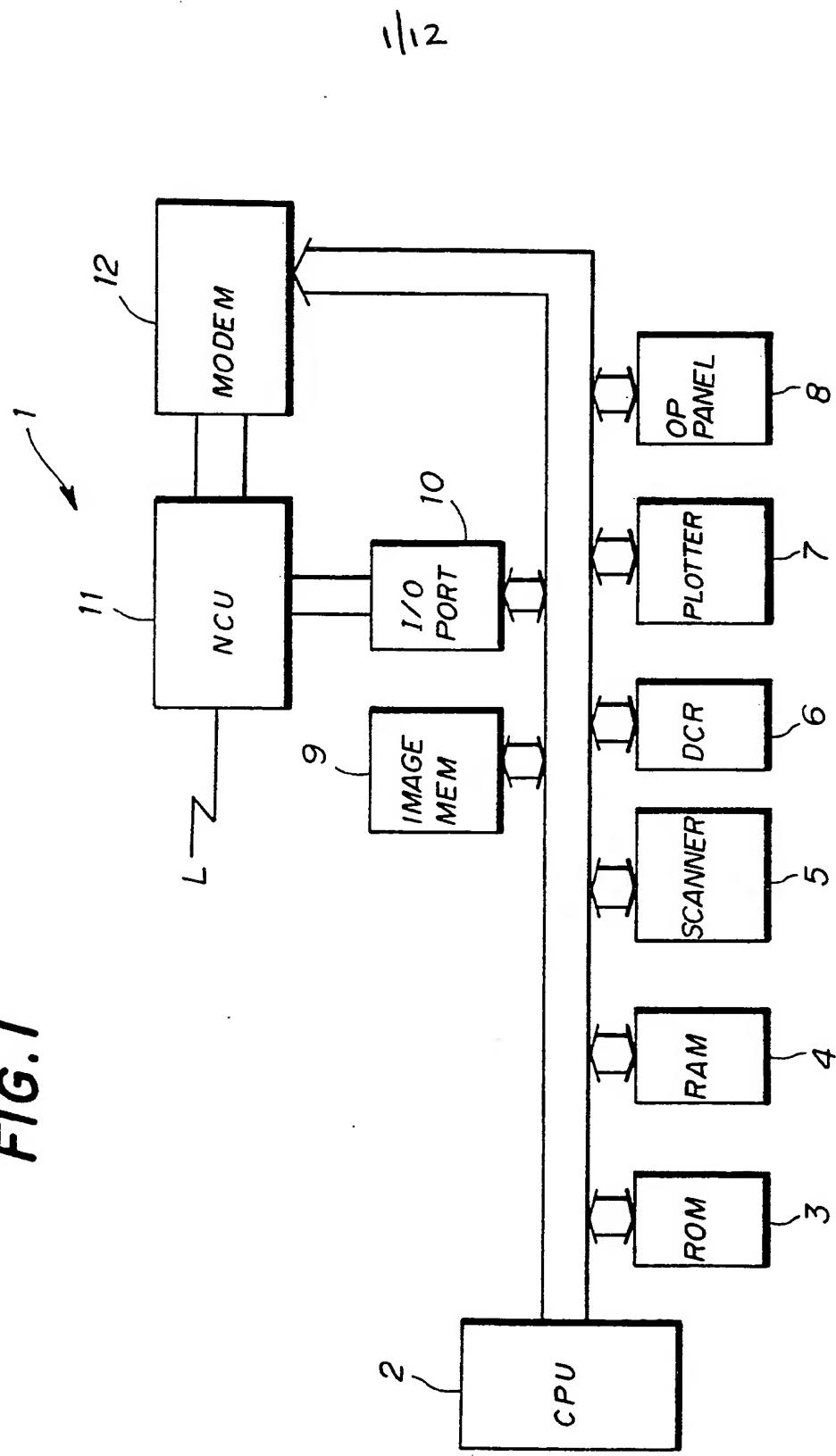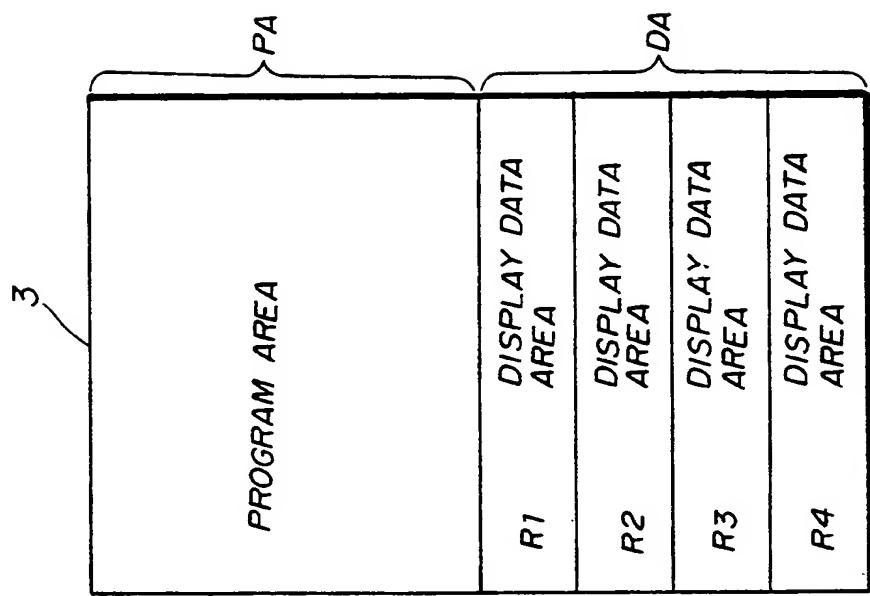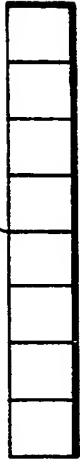
8e

FIG.6A

```
READY                    10:00

SET  DOCUMENT
```

8e

FIG.6B

```
BEREIT                   10:00

DOKUMENTE  EINLEGEN
```

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FIG. 1

FIG. 2

3

PROGRAM AREA		PA
DISPLAY DATA AREA	R1	DA
DISPLAY DATA AREA	R2	
DISPLAY DATA AREA	R3	
DISPLAY DATA AREA	R4	

CA

FIG.3A

R1 0 0 0 0 0 0 1
R2 0 0 0 0 0 1 0
R3 0 0 0 0 0 1 1
R4 0 0 0 0 1 0 0

FIG.3B

FIG.4

FIG. 5

```
        ( START )
            │
            ▼
┌─────────────────────┐  S1
│  READ REGION CODE   │
└─────────────────────┘
            │
            ▼           S2
         ╱─────╲         NO
        ╱  R1 ? ╲──────────────┐
        ╲       ╱               │
         ╲─────╱                ▼           S3
            │ YES            ╱─────╲          NO
            │               ╱  R2 ? ╲──────────────┐
            ▼  S5           ╲       ╱               │
┌─────────────────┐         ╲─────╱                ▼          S4
│  DISPLAY DATA   │            │ YES           ╱─────╲         NO
│  FOR R1         │            │              ╱  R3 ? ╲──────────────┐
└─────────────────┘            ▼  S6          ╲       ╱              │
            │        ┌─────────────────┐      ╲─────╱               │
            │        │  DISPLAY DATA   │         │ YES               │
            │        │  FOR R2         │         │                   │
            │        └─────────────────┘         ▼  S7               │
            │                 │        ┌─────────────────┐           │
            │                 │        │  DISPLAY DATA   │           │
            │                 │        │  FOR R3         │           │
            │                 │        └─────────────────┘           ▼  S8
            │                 │                 │         ┌─────────────────┐
            │                 │                 │         │  DISPLAY DATA   │
            │                 │                 │         │  FOR R4         │
            │                 │                 │         └─────────────────┘
            │                 │                 │                   │
            ◄─────────────────┴─────────────────┴───────────────────┘
            │
            ▼
        ( RETURN )
```

8e

READY
SET DOCUMENT
10:00

FIG.6A

8e

BEREIT
DOKUMENTE EINLEGEN
10:00

FIG.6B

FIG. 7

DATA AREA

LANGUAGE CODE
SELECT AREA LA

REGION CODE AREA CA

UA

SA

4

FIG.8A

LA
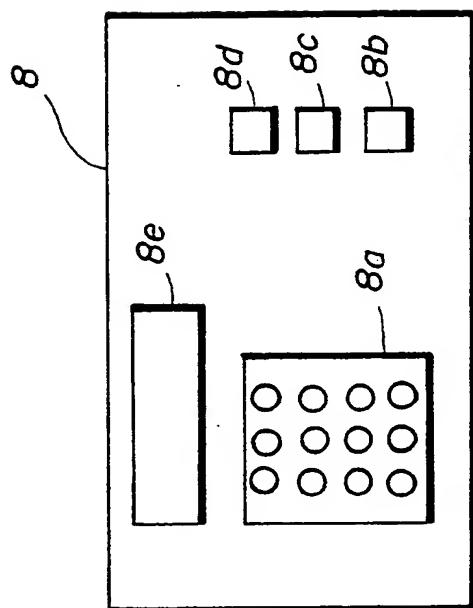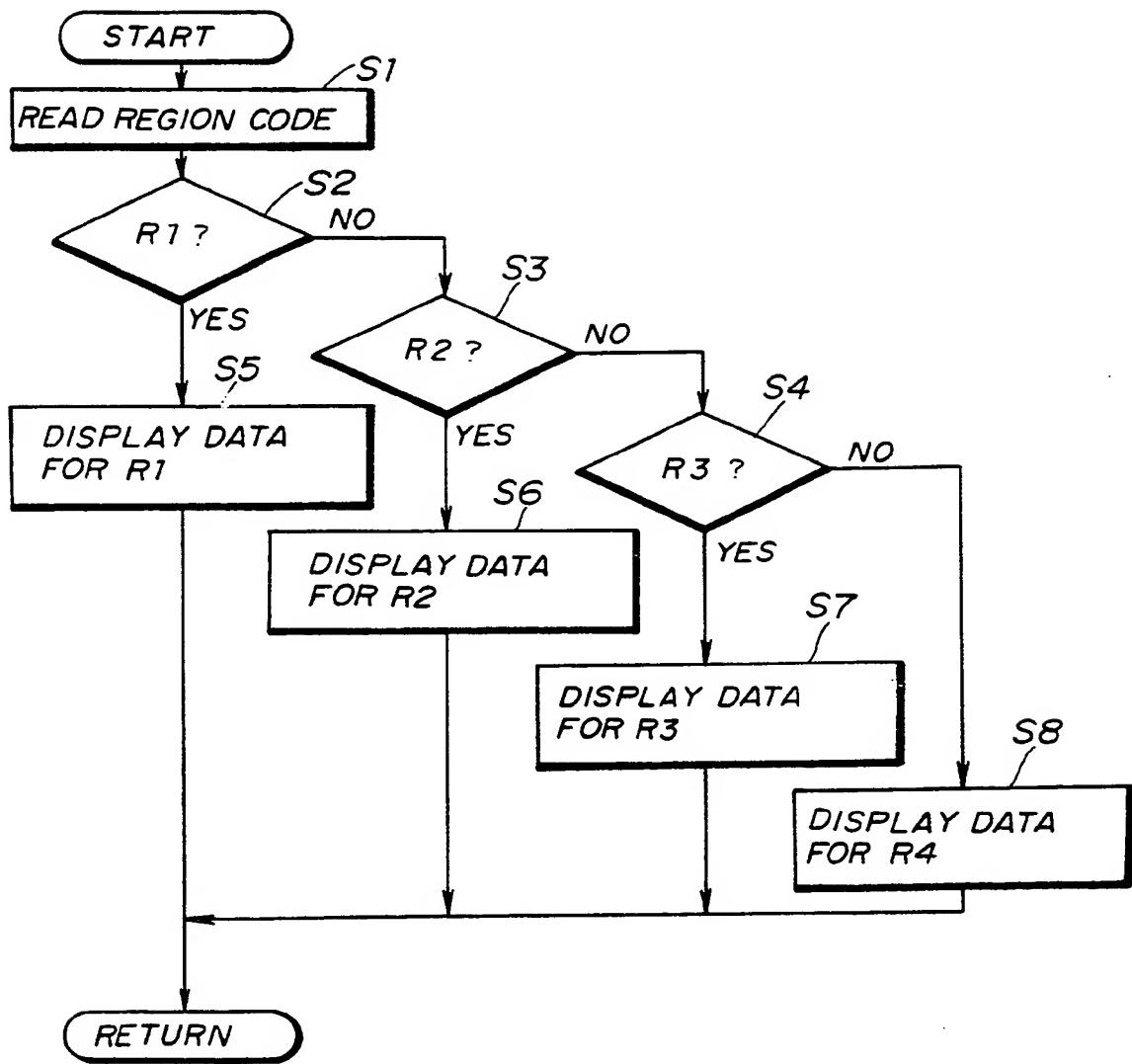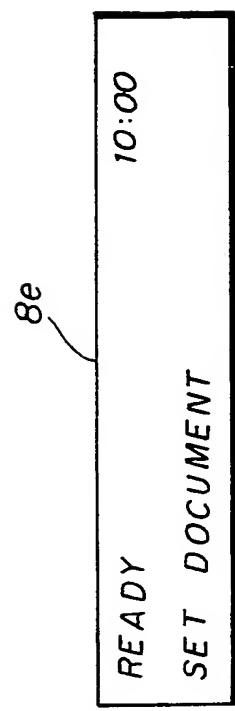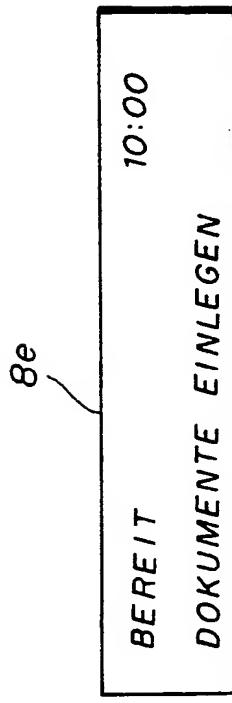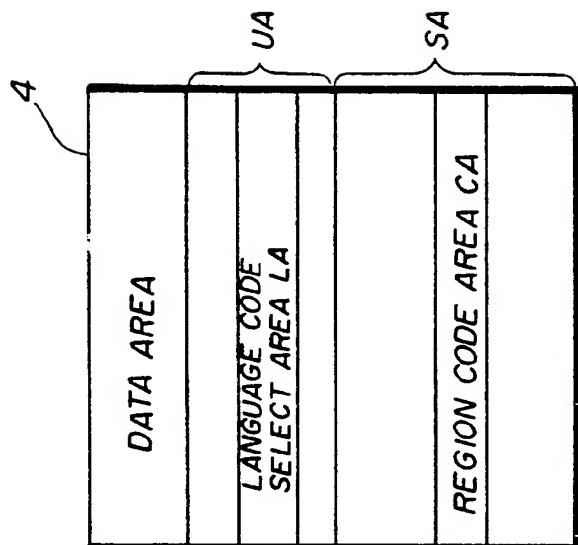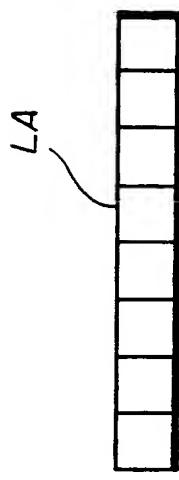
FIG.8B

0 0 0 0 0 0 0 1	LANG1
0 0 0 0 0 0 1 0	LANG2
0 0 0 0 0 0 1 1	LANG3
0 0 0 0 0 1 0 0	LANG4

FIG.9

8f

8d

8c

8b

8

8e

8a

FIG. 10A

START

P1
LANGUAGE
SELECT CODE
= REGION CODE
?

NO

YES

P11
CEF SET
?

NO

YES

P12
LSF ON
?

YES

NO

P13
LSF → ON
CEF → RESET

P2
CEF → RESET
LSF → ON

P14
SAME
AS R1
?

NO

YES

P15
SAME
AS R2
?

NO

YES

P16
SAME
AS R3
?

NO

YES

P3
STORE
REGION CODE

① ② ③ ④

Ⓐ

FIG. 10B

FIG.11

3

|	
PROGRAM AREA	PA
DISPLAY DATA AREA	DA
REPORT DATA AREA R1	
REPORT DATA AREA R2	RA
REPORT DATA AREA R3	
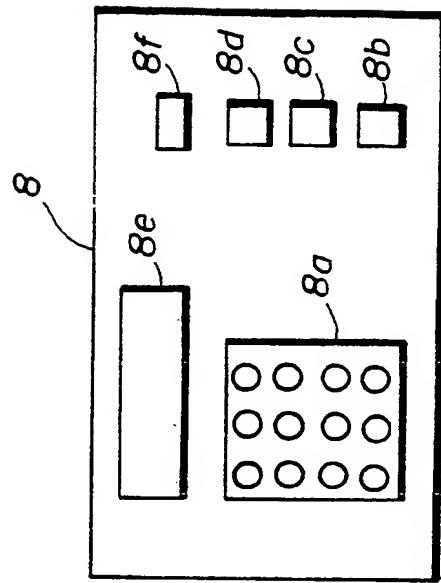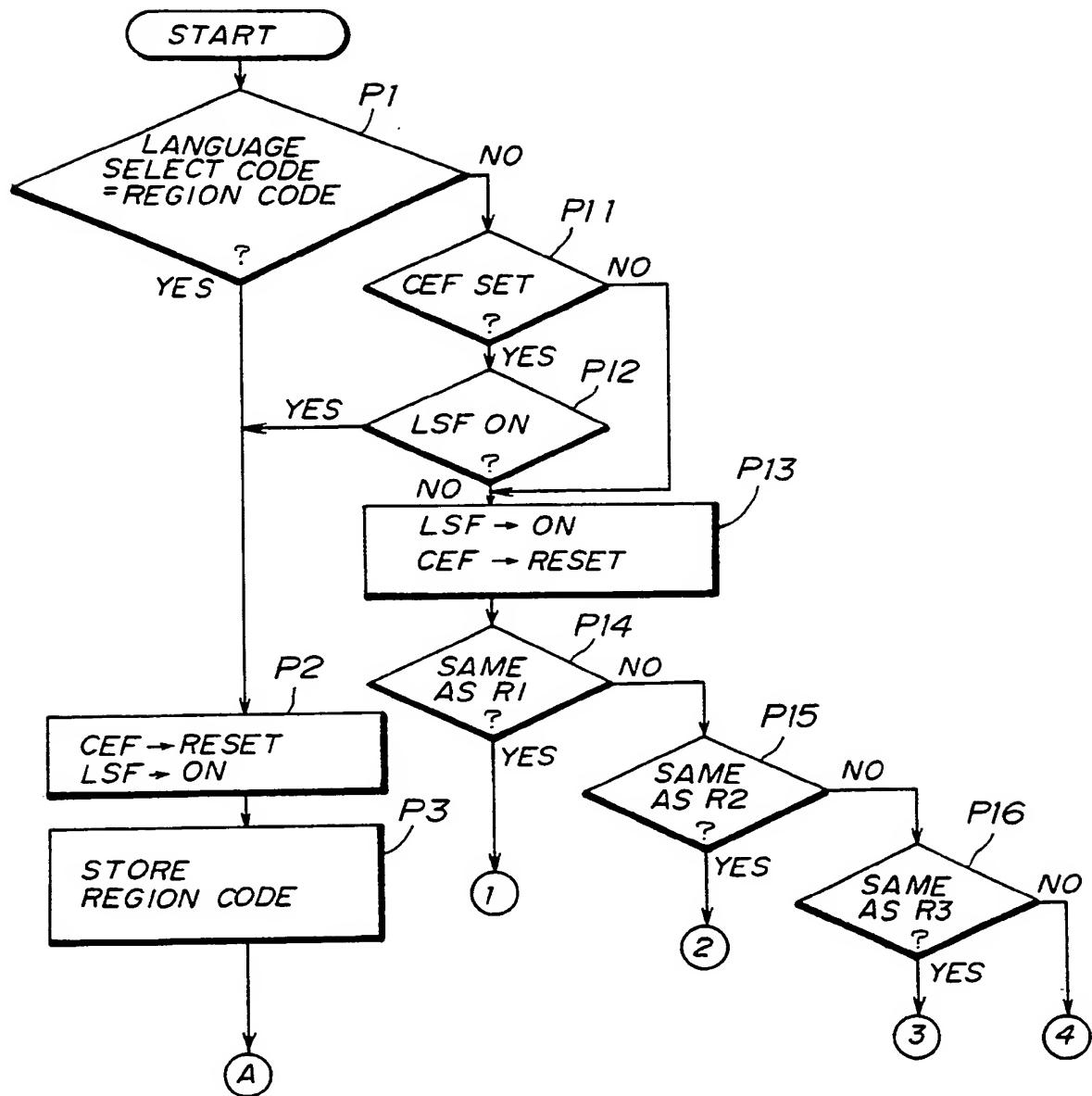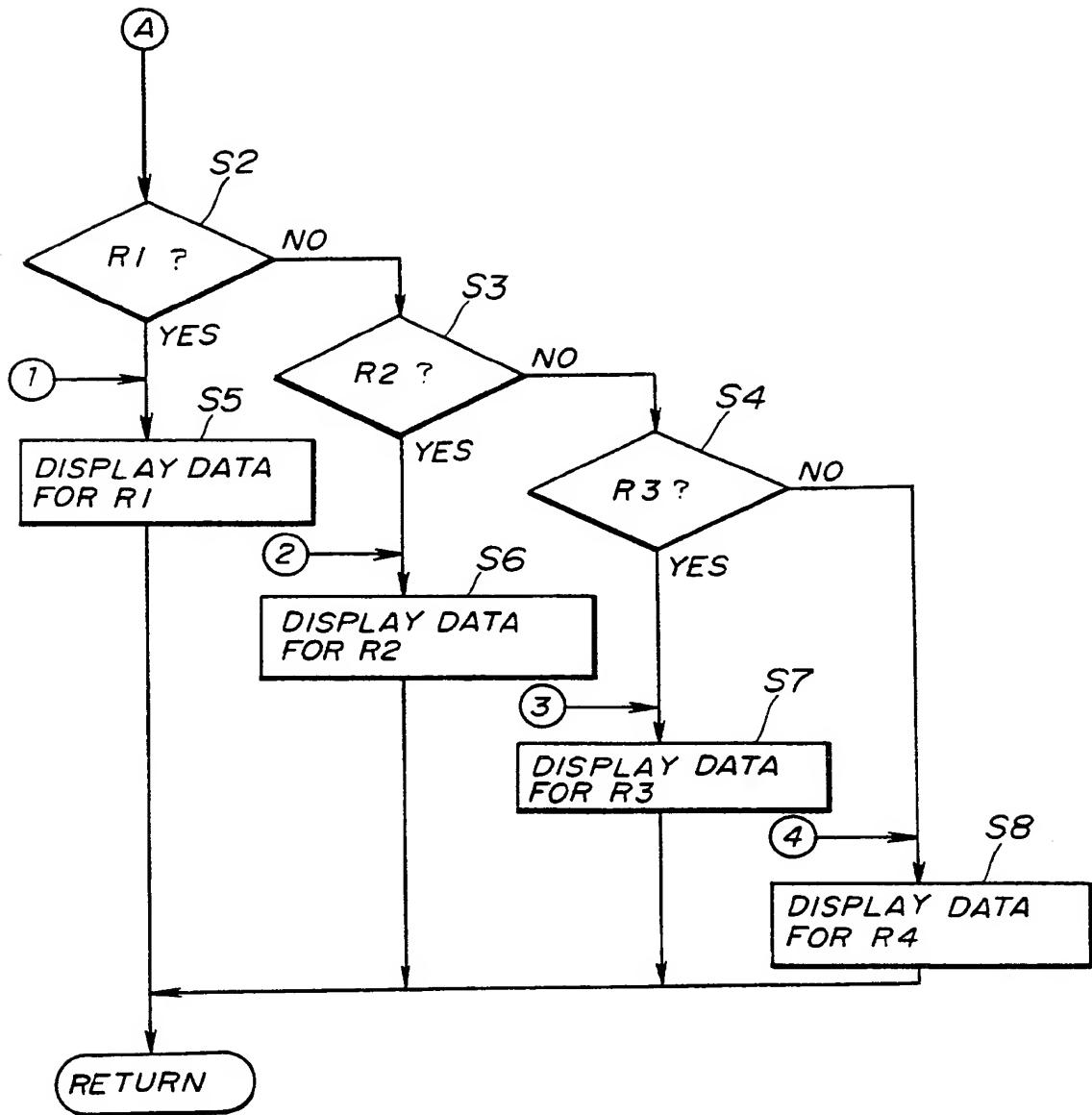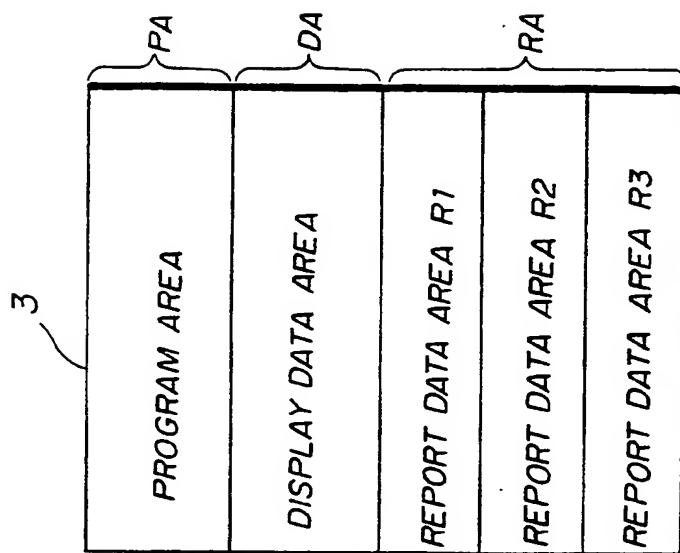
1

"IMAGE FORMING APPARATUS"

The present invention generally relates to image forming apparatuses, and more particularly to
5 an image forming apparatus with facilitated language processing which is used for display and/or recording of various information.

In facsimile machines, for example, a display or a recording is made to help the user so
10 that a smooth operation is ensured and to indicate the contents of the processing when making a facsimile communication. For example, a guidance for the operator is displayed on a display part. On the other hand, results of communications, information
15 related to the destination and source facsimile machines and the like are recorded on a recording paper. The various information must be displayed or recorded with a language easily understood by the operator. However, the facsimile machines are set up
20 in various countries where different languages are used. For this reason, the language which is used to display or record the various information must be the language used in the region where the facsimile machine is set up.

25 Conventionally, the various information is

1   stored in a memory of the facsimile machine in a
    language which is used in the region where the
    facsimile is set up. Hence, it is possible to
    display or record the various information in the
5   language appropriate for the region where the
    facsimile machine is set up.

         However, each facsimile machine must be
    installed with a memory which stores the various
    information in the language which is used in the
10 region where the facsimile machine is set up. For
    this reason, the facsimile machines must be produced
    for each of the regions where the facsimile machines
    are set up. In addition, the same information must
    be prepared in many different languages and stored in
15 the memories which are respectively designed for use
    in the facsimile machines to be set up in various
    regions where different languages are used. As a
    result, there are problems in that it is both
    troublesome and time consuming to prepare the same
20 information in different languages, the control of
    production becomes complex and the facsimile machines
    become expensive.

         On the other hand, when the various
    information is stored in the memory of the facsimile
25 machine in one language, the facsimile machine can

1   can only display or record the various information in
     this one language. Therefore, the conventional
     facsimile machine is not user-friendly. That is,
     when the operator who is used to operating a
5   facsimile machine set up in a first region attempts
     to use a facsimile machine set up in a second region
     where the language used is different from that used
     in the first region, the operator cannot understand
     the display or recording output from the facsimile
10   machine unless the operator understands the language
     used in the second region and the operator may make
     an erroneous operation on the facsimile machine.

              The above described problems also occur in
     the case of other types of image forming apparatuses
15   such as a copying machine and a printer.

              It is a general object of the present
     invention to provide a novel and useful image forming
     apparatus in which the problems described above are
     eliminated.

20   According to one aspect of the present
     invention, there is provided an image forming
     apparatus comprising input means for inputting a
     selection data which selects an arbitrary one of a
     plurality of languages, memory means for storing
25   output data which are written in the plurality of

languages and the selection data which is input from said input means, said output data including at least one of guidance information which provides guidance for operating the image forming apparatus and control information for reporting a state of the image forming apparatus, output means including display means for displaying data and recording means for recording data on a recording paper, and control means coupled to said input means, said memory means and said output means for controlling operation timings of the image forming apparatus, said control means controlling said output means to output the output data which is stored in said memory means and is written in one of the plurality of languages selected by the selection data which is stored in said memory means using at least one of said display means and said recording means. According to the image forming apparatus of the present invention, the same image forming apparatus can be set up and used in different regions where different languages are used because the necessary display or recording can be made in the language which is appropriate for the region where the image forming apparatus is set up. As a result, it is possible to produce image forming apparatuses which are user-friendly. Further, the

1   control of production is simple and the image forming

apparatus can be produced at a low cost.

According to another aspect of the present

invention, there is provided an image forming

5   apparatus having first and second modes comprising

input means including means for inputting a first

selection data which selects an arbitrary one of a

plurality of languages and means for inputting a

second selection data which selects an arbitrary one

10   of the plurality of languages different from that

selected by the first selection data, memory means

for storing output data which are written in the

plurality of languages and the first and second

selection data which are input from said input means,

15   said output data including at least one of guidance

information which provides guidance for operating the

image forming apparatus and control information for

reporting a state of the image forming apparatus,

output means including display means for displaying

20   data and recording means for recording data on a

recording paper, and control means coupled to said

input means, said memory means and said output means

for controlling operation timings of an image forming

operation of the image forming apparatus and for

25   automatically setting a mode of the image forming

1   apparatus to the second mode when the second

selection data is input from said input means, said

control means controlling said output means to output

the output data which is stored in said memory means

5   and is written in one of the plurality of languages

selected by the first selection data which is stored

in said memory means using at least one of said

display means and said recording means in the first

mode, said control means controlling said output

10   means to output the output data which is stored in

said memory means and is written in one of the

plurality of languages selected by the second

selection data which is stored in said memory means

using at least one of said display means and said

15   recording means in the second mode and automatically

returning the mode to the first mode after one image

forming operation of the image forming apparatus ends.

      Other objects and further features of the

present invention will be apparent from the following

20   detailed description when read in conjunction with

the accompanying drawings.

      FIG.1 is a system block diagram showing a

first embodiment of an image forming apparatus

according to the present invention;

25   FIG.2 shows memory areas of a ROM of the

1   first embodiment;

FIGS.3A and 3B respectively show a region code area within a RAM of the first embodiment and a region code which is set in the region code area;

5   FIG.4 shows an embodiment of an operation panel of the first embodiment;

FIG.5 is a flow chart for explaining a language process of a CPU of the first embodiment;

FIGS.6A and 6B show displays made on a

10   display part of the operation panel of the first embodiment;

FIG.7 shows memory areas of a RAM of a second embodiment of the image forming apparatus according to the present invention;

15   FIGS.8A and 8B respectively show a language selection code area within the RAM of the second embodiment and a language selection code which is set in the language selection code area;

FIG.9 shows an embodiment of an operation

20   panel of the second embodiment;

FIG.10 is a flow chart for explaining a language process of a CPU of the second embodiment; and

FIG.11 shows memory areas of a ROM of a

25   modification of the second embodiment of the image

1   forming apparatus according to the present invention.

First, a description will be given of a
first embodiment of an image forming apparatus
according to the present invention, by referring to

5   FIGS.1 through 6. In this embodiment, the present
invention is applied to a facsimile machine.

FIG.1 generally shows the first
embodiment. A facsimile machine 1 shown in FIG.1
includes a central processing unit (CPU) 2, a read

10   only memory (ROM) 3, a random access memory (RAM) 4,
a scanner unit 5, a data compression and
reconstruction (DCR) unit 6, a plotter unit 7, an
operation panel 8, an image memory 9, an input/output
port 10, a network control unit (NCU) 11 and a modem

15   12 which are connected as shown.

The CPU 2 controls the operation timings of
each part of the facsimile machine 1 to enable a
facsimile communication.

As shown in FIG.2, the ROM 3 is sectioned

20   into a program area PA and a display data area group
DA. Basis programs for carrying out basic operations
of the facsimile machine 1 and a language processing
program which forms an essential part of this
embodiment are stored in the program area PA. The

25   display data area group DA is divided into a

1   plurality of display data areas for each of the

     regions where the facsimile machine 1 may be set up.

     In this embodiment, four display data areas for four

     regions R1 through R4 make up the display data area

5   group DA. Each display data area stores display data

     which are written in a language which is used in a

     corresponding region Ri, where i = 1, ..., 4 in this

     case. The display data stored in each display data

     area includes all data which are displayed on a

10   display part of the operation panel 8. For example,

     the display data includes guidance information for

     guiding the operator when making a facsimile

     transmission, guidance information for guiding the

     operator when making a facsimile reception and the

15   like. Accordingly, the display data area group DA of

     the ROM 3 constitutes a memory means which stores

     various information which are written in a plurality

     of languages (four in this case) which are used in

     the regions where the facsimile machine 1 is set up.

20   The RAM 4 forms a work area, and a region

     code area CA shown in FIG.3A is formed in the RAM 4.

     Regions codes for the four regions R1 through R4

     shown in FIG.3B are set in the region code area CA.

     The region code is used as selection information for

25   selecting the display data from the display data area

1   DA of the ROM 3 in conformance with the region Ri

where the facsimile machine 1 is set up.   Hence, the

RAM 4 constitutes a selection memory means for

storing the selection information (region codes) for

5   selecting the region (set-up region).

The scanner unit 5 is made up of an image

sensor unit using charged coupled devices (CCDs), for

example.   The scanner unit 5 scans a document image

and outputs image data which describes the read

10   document image.

The DCR unit 6 compresses and reconstructs

the image data in conformance with a predetermined

coding/decoding system.

The plotter unit 7 is made up of a thermal

15   plotter unit using thermal elements, for example.

The plotter unit 7 may record information directly on

a thermally sensitive recording paper or indirectly

on a plain recording paper via an ink sheet.

Alternatively, the plotter unit 7 may be made up of a

20   known laser printing unit which uses a laser beam to

make a print.

FIG.4 shows an embodiment of the operation

panel 8.   The operation panel 8 includes a ten-key

8a, a start key 8b, a stop key 8c, a copy key 8d, a

25   display part 8e and the like.   The start key 9b is

1   used to instruct the start of a facsimile
transmission, the start of a facsimile reception in a
manual reception mode, and the start of a copying
operation.   The stop key 8c is used to instruct the
5   stopping of various operations.   The copy key 8d is
used to select a copy mode in which a copy print is
made using the scanner unit 5 and the plotter unit
5.   The display part 8e displays guidance information
such as the operating instructions for making
10   facsimile transmission and reception and contents of
instructions entered.   In other words, the display
part 8e displays the display data within the ROM 3 in
the language which is selected by the region code
area CA of the RAM 4.

15   The image memory 9 has a predetermined
memory capacity for storing image data which are
transmitted and received.

            The NCU 11 is connected to a line L and
makes an automatic calling process and an automatic
20   answering process.   In addition, the NCU 11 exchanges
facsimile control signals with another facsimile
machine to carry out a facsimile control procedure.

            The modem 12 modulates a signal which is to
be transmitted on the line L and demodulates a signal
25   which is received from the line L.

1   In a facsimile transmission mode, the facsimile machine 1 reads the document which is set on a document setting part (not shown) by the scanner unit 5. The image data output from the scanner unit

5   5 is coded in the DCR unit 6 and the coded image data is modulated in the modem 12. The modulated data is transmitted on the line L via the NCU 11.

          On the other hand, in a facsimile reception mode, the facsimile machine 1 demodulates the

10   modulated image data which is received from the line L in the modem 12. The demodulated image data is decoded in the DCR unit 6. The decoded image data is supplied to the plotter unit 7 and recorded on a recording paper.

15   Next, a description will be given of a language processing which is carried out in the CPU 2 when displaying or recording various information in an arbitrary language. FIG.5 is a flow chart showing the language processing of the CPU 2.

20   The facsimile machine 1 displays various guidance information on the display part 8e of the operation panel 8 in a standby mode, a facsimile transmission mode and a facsimile reception mode. The guidance information should be displayed in the

25   language the operator can understand.

1   In this embodiment, the display data are
written in languages which may be used in the region
where the facsimile machine 1 is set up, and the
display data in the different languages are prestored
5   in the display data area group DA within the ROM 3.
When the facsimile machine 1 is set up, the
serviceman or the operator sets the region code in
the region code area CA within the RAM 4 by
manipulating appropriate keys of the operation panel
10   8, for example. The display data which are written
in the different languages and independently stored
in the respective display data areas within the ROM 3
are read out depending on the region code which is
set in the region code area CA within the RAM 4, and
15   the display data in the language appropriate for the
region is displayed on the display part 8e.

       That is, the display data for the regions
R1 through R4 are stored in the display data area
group DA within the ROM 3 and one of the region codes
20   corresponding to the regions R1 through R4 and shown
in FIG.3B is set as the region code. When displaying
the display data on the display part 8e, the CPU 2 of
the facsimile machine 1 starts the process shown in
FIG.5.

25   A step S1 shown in FIG.5 reads the region

1   code from the region code area CA of the RAM 4. A

step S2 discriminates whether or not the read region

code indicates the region R1. When the

discrimination result in the step S2 is NO, a step S3

5   discriminates whether or not the read region code

indicates the region R2. When the discrimination

result in the step S3 is NO, a step S4 discriminates

whether or not the read region code indicates the

region R3. Hence, the steps S2 through S4 check the

10   region which is indicated by the read region code.

When the discrimination result in the step

S2 is YES, a step S5 reads from the display data area

group DA within the ROM 3 the display data

corresponding to the read region code, that is, the

15   region R1, and displays the read out display data on

the display part 8e. When the discrimination result

in the step S3 is YES, a step S6 reads from the

display data area group DA within the ROM 3 the

display data corresponding to the read region code,

20   that is, the region R2, and displays the read out

display data on the display part 8e. In addition,

when the discrimination result in the step S4 is YES,

a step S7 reads from the display data area group DA

within the ROM 3 the display data corresponding to

25   the read region code, that is, the region R3, and

1   displays the read out display data on the display
part 8e. On the other hand, when the discrimination
result in the step S4 is NO, a step S8 reads from the
display data area group DA within the ROM 3 the

5   display data corresponding to the read region code,
that is, the region R4, and displays the read out
display data on the display part 8e.

For example, when displaying the guidance
information (display data) in the standby mode, a

10   guidance in English is displayed on the display part
8e as shown in FIG.6A when the region code indicates
England. On the other hand, a guidance in German is
displayed on the display part 8e as shown in FIG.6B
when the region code indicates Germany. Accordingly,

15   it is possible to display the display data in the
language appropriate for the region where the
facsimile machine 1 is set up by merely setting the
region code in the region code area CA within the RAM
4. There is no need to produce the facsimile

20   machines 1 exclusively for the different regions. As
a result, the design and production can be controlled
with ease, thereby improving the production
efficiency and reducing the cost of the facsimile
machines 1.

25   Next, a description will be given of a

second embodiment of the image forming apparatus
according to the present invention, by referring to
FIGS.7 through 11. In this embodiment, the present
invention is also applied to a facsimile machine
which has a structure identical to that of the first
embodiment shown in FIG.1, and a description of the
block system will be omitted. In this embodiment,
the serviceman fixedly sets the language for the
region where the facsimile machine is set up, and the
operator can designate an arbitrary language. When
the sequence of facsimile processes are completed in
the language which is designated by the operator, the
language is automatically returned to the language
which is fixedly set by the serviceman. Of course,
the operator may fixedly set the language for the
region where the facsimile machine is set up in place
of the serviceman.

In this embodiment, the basic programs of
the facsimile machine 1 and the language processing
program are stored in the program area PA of the ROM
3, and the display data written in the languages
appropriate for the regions where the facsimile
machine 1 is set up are stored in the display data
area group DA of the ROM 3 as described in
conjunction with FIG.2.

On the other hand, the region code area CA
is formed in a serviceman area SA of the RAM 4 and a
language selection code area LA is formed in a user
area UA of the RAM as shown in FIG.7. Similarly as
in the case of the first embodiment, when setting up
the facsimile machine 1, the serviceman sets in the
region code area CA the region code which is in
accordance with the region where the facsimile
machine 1 is set up. Normally, the CPU 2 sets in the
language selection code area LA a language selection
code the content of which is identical to that of the
region code set in the region code area CA. But when
the operator selects an arbitrary language from the
key of the operation panel 8 when operating the
facsimile machine 1, a language selection code
(language instruction information) corresponding to
the selected arbitrary language is set in the
language selection code area LA.

As shown in FIG.8A, the language selection
area LA has 8 bits, similarly to the region code area
CA. In addition, the language selection code which
is set in the language selection code area LA is
given a code which corresponds to one region as shown
in FIG.8B. For example, language selection codes
LANG1 through LANG4 respectively correspond to the

regions R1 through R4. Accordingly, the language
selection code area LA forms a language instruction
memory which stores the language instruction
information for arbitrarily selecting the output
language.

FIG.9 shows an embodiment of the operation
panel 8 of the second embodiment. In FIG.9, those
parts which are the same as those corresponding parts
in FIG.4 are designated by the same reference
numerals, and a description thereof will be omitted.
As shown in FIG.9, a language selection key 8f is
provided in addition to the keys 8a through 8d and
the display part 8e. The language selection key 8f
is manipulated when selecting a language selection
mode.

For the sake of convenience, it is assumed
that display data for the four regions R1 through r$
are stored in the display data area group DA of the
ROM 3, and one of the four region codes shown in
FIG.3B and corresponding to the region where the
facsimile machine 1 is set up is set in the region
code area CA of the RAM 4 by the serviceman. When
the region code is set by the serviceman, the CPU 2
sets in the language selection code area LA a
language selection code the content of which is

1   identical to that of the region code set in the

region code area CA.

Next, a description will be given of the

operation of the CPU 2 in this embodiment, by

5   referring to FIG.10. In FIG.10, those steps which

are the same as those corresponding steps in FIG.5

are designated by the same reference numerals, and a

description thereof will be omitted. When displaying

guidance information on the display part 8e of the

10   facsimile machine 1, a step P1 discriminates whether

or not the content of the language selection code

area LA is unchanged. In other words, the step P1

discriminates whether or not the content of the

language selection code area LA is the same as the

15   content of the region code area CA. When the

language selection code and the region code are the

same and the discrimination result in the step P1 is

YES, a step P2 resets a communication end flag CEF

and turns OFF a language switch flag LSF. A step P3

20   reads the content of the region code area CA and

stores the read content into the language selection

code area LA. The communication end flag CEF is

stored in a predetermined region of the RAM 4 and is

set every time one communication ends. In addition,

25   the language switch flag LSF is similarly stored in a

1   predetermined region of the RAM 4. The language
       switch flag LSF is set when the language selection
       code in the language selection code area LA is
       switched to a code different from the region code in
5   the region code area CA.

              After the step P3, the process is the same
       as in the first embodiment as described in
       conjunction with FIG.5. In other words, the steps S2
       through S4 checks which one of the regions R1 through
10   R4 is indicated by the region code. In addition, the
       steps S5 through S8 read the display data for the
       region indicated by the region code and displays the
       read display data on the display part 8e.

              On the other hand, when the discrimination
15   result in the step P1 is NO, a step P11 discriminates
       whether or not the communication end flag CEF is
       set. When one communication is ended and the
       discrimination result in the step P11 is YES, a step
       P12 discriminates whether or not the language switch
20   flag LSF is set, that is, whether or not the language
       is switched by the operator. When the discrimination
       result in the step P12 is YES, the display is made in
       the language selected by the operator and it is
       discriminated that the facsimile communication in
25   accordance with the display in the selected language

1   is completed, and the process advances to the step

P2. The step P2 resets the communication end flag

CEF and turns OFF the language switch flag LSF to

return the facsimile machine 1 to the initial state.

5   Accordingly, the region code stored in the region

code area CA is stored in the language selection code

area LA, and the display part 8e displays the display

data which is in the language appropriate for one of

the regions R1 through R4 selected by the region code.

10   On the other hand, when the discrimination

result in the step P11 or P12 is NO, it is

discriminated that the communication process in the

language selected by the operator is not completed or

one communication process is completed but a language

15   selection is made again. In this case, a step P13

turns ON the language switch flag LSF and resets the

communication end flag CEF. Then, a step P14

discriminates whether or not the language selection

code in the language selection code area LA

20   corresponds to the region code of the region R1.

When the discrimination result in the step P14 is NO,

a step P15 discriminates whether or not the language

selection code in the language selection code area LA

corresponds to the region code of the region R2.

25   When the discrimination result in the step P15 is NO,

1   a step P16 discriminates whether or not the language selection code in the language selection code area LA corresponds to the region code of the region R3. In other words, the steps P14 through P16 check which

5   one of region codes of the regions R1 through R4 the language selection code in the language selection code area LA corresponds.

The process advances to the step S5 when the discrimination result in the step P14 is YES.

10   The process advances to the step S6 when the discrimination result in the step P15 is YES. The process advances to the step S7 when the discrimination result in the step P16 is YES. On the other hand, the process advances to the step S8 when

15   the discrimination result in the step P16 is NO. As a result, the display data which is written in the language appropriate for the region which corresponds to the language selection code in the language selection code area LA is read from the ROM 3 and

20   displayed on the display part 8e.

Accordingly, even when the operator goes to a region where the language used is different from the mother tongue of the operator and the operator operates the facsimile machine 1, the operator can

25   select the language the operator is able to

1 understand and receive the necessary guidance which
   is displayed on the display part 8e in the selected
   language. For this reason, the facsimile machine 1
   is extremely user-friendly.

5   In addition, when the series of
   communication processes are completed in the language
   which is selected by the operator, the facsimile
   machine 1 is automatically returned to the initial
   state so that the display data is thereafter

10 displayed on the display part 8e in the language
   which is set by the serviceman and is appropriate for
   the region where the facsimile machine 1 is set.
   Hence, there is no need to manually return the
   facsimile machine 1 to the initial state so that the

15 display data is thereafter displayed on the display
   part 8e in the language which is appropriate for the
   region where the facsimile machine 1 is set.
   Therefore, the facsimile machine 1 is very easy to
   operate because the operator can select the desired

20 language in which the guidance is to be displayed on
   the display part 8e.
           In the described embodiments, the present
   invention is applied to the facsimile machine.
   However, the present invention is similarly

25 applicable to any types of image forming apparatuses

1   such as a copying machine and a printer.

The information which is output from the
facsimile machine 1 in the selected language need not
necessarily be displayed on the display part 8e, and

5   may be output in a desired form. In addition, the
information which is output in the selected language
is not limited to the guidance information which
provides guidance for operating the facsimile machine
1. For example, the information which is output in

10   the selected language may include control information
for reporting the state of the facsimile machine 1
such as results of transmissions and receptions,
information related to the destination and source
facsimile machines and the like. Such information

15   may be recorded on the plotter unit 7 instead of
being displayed on the display part 8e.

In a modification of the second embodiment,
a report data area group RA is provided in the ROM 3
in addition to the program area PA and the display

20   data area group DA as shown in FIG.11. A report such
as the results of transmissions and receptions is
written in a desired language and stored in a
corresponding report data area of the report data
area group RA as a report data. The report data in

25   the report data area of the ROM 3 is read and

1   recorded on the recording paper by the plotter unit 7.

In the described embodiments, it is of course possible to use a single memory means and use two independent memory locations thereof as the first

5   and second memory means. That is, a single memory device may be used as the ROM 3 and the RAM 4.

Further, the present invention is not limited to these embodiments, but various variations and modifications may be made without departing from

10   the scope of the present invention.

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<u>WHAT WE CLAIM IS</u>:

1. An image forming apparatus comprising:

input means for inputting a selection data which selects an arbitrary one of a plurality of languages;

memory means for storing output data which are written in the plurality of languages and the selection data which is input from said input means, said output data including at least one of guidance information which provides guidance for operating the image forming apparatus and control information for reporting a state of the image forming apparatus;

output means including display means for displaying data and recording means for recording data on a recording paper; and

control means coupled to said input means, said memory means and said output means for controlling operation timings of the image forming apparatus,

said control means controlling said output means to output the output data which is stored in said memory means and is written in one of the plurality of languages selected by the selection data which is

1   stored in said memory means using at least one of

said display means and said recording means.

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         2. The image forming apparatus as claimed
in claim 1 wherein said memory means includes a read
only memory for storing the output data and programs

10   for controlling the operation timings of the image

forming apparatus.

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         3. The image forming apparatus as claimed
in claim 1 wherein said memory means includes a
random access memory for storing the selection data
which is input from said input means.

20

         4. The image forming apparatus as claimed

25   in claim 1 wherein said output data include display

1   data which are related to the guidance information
and are written in the plurality of languages, and
said control means controls said output means to
display the display data on said display means in one
5   of the plurality of languages selected by the
selection data which is stored in said memory means.

10

     5.   The image forming apparatus as claimed
in claim 1 wherein said output data include report
data which are related to the control information and
are written in the plurality of languages, and said
15   control means controls said output means to record
the report data on the recording paper by said
recording means in one of the plurality of languages
selected by the selection data which is stored in
said memory means.

20

     6.   The image forming apparatus as claimed
25   in claim 1 which further comprises means coupled to

1   said control means for carrying out a facsimile

communication, so that the image forming apparatus is

usable as a facsimile machine.

5

       7. An image forming apparatus having first

and second modes comprising:

10   input means including means for inputting a

first selection data which selects an arbitrary one

of a plurality of languages and means for inputting a

second selection data which selects an arbitrary one

of the plurality of languages different from that

15   selected by the first selection data;

       memory means for storing output data which are

written in the plurality of languages and the first

and second selection data which are input from said

input means, said output data including at least one

20   of guidance information which provides guidance for

operating the image forming apparatus and control

information for reporting a state of the image

forming apparatus;

       output means including display means for

25   displaying data and recording means for recording

1   data on a recording paper; and

control means coupled to said input means, said
memory means and said output means for controlling
operation timings of an image forming operation of

5   the image forming apparatus and for automatically
setting a mode of the image forming apparatus to the
second mode when the second selection data is input
from said input means,

said control means controlling said output means

10   to output the output data which is stored in said
memory means and is written in one of the plurality
of languages selected by the first selection data
which is stored in said memory means using at least
one of said display means and said recording means in

15   the first mode,

said control means controlling said output means
to output the output data which is stored in said
memory means and is written in one of the plurality
of languages selected by the second selection data

20   which is stored in said memory means using at least
one of said display means and said recording means in
the second mode and automatically returning the mode
to the first mode after one image forming operation
of the image forming apparatus ends.

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1   8.   The image forming apparatus as claimed in claim 7 wherein said memory means includes a read only memory for storing the output data and programs for controlling the operation timings of the image

5   forming apparatus.

10   9.   The image forming apparatus as claimed in claim 7 wherein said memory means includes a random access memory for storing the first and second selection data which are input from said input means.

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       10.   The image forming apparatus as claimed in claim 7 wherein said output data include display

20   data which are related to the guidance information and are written in the plurality of languages, and said control means controls said output means to display the display data on said display means in one of the plurality of languages selected by the first

25   selection data which is stored in said memory means

1   in the first mode and selected by the second

selection data which is stored in said memory means

in the second mode.

5

11.   The image forming apparatus as claimed

in claim 7 wherein said output data include report

10   data which are related to the control information and

are written in the plurality of languages, and said

control means controls said output means to record

the report data on the recording paper by said

recording means in one of the plurality of languages

15   selected by the first selection data which is stored

in said memory means in the first mode and selected

by the second selection data which is stored in said

memory means in the second mode.

20

12.   The image forming apparatus as claimed

in claim 7 which further comprises means coupled to

25   said control means for carrying out a facsimile

1   communication, so that the image forming apparatus is

usable as a facsimile machine.

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13.   An image forming apparatus

substantially as hereinbefore described with

reference to and as illustrated in the accompanying

10   drawings.

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